Predicting Acute Urinary Retention in Patients with Elevated Post Void Residuals

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OBJECTIVES: To perform a retrospective analysis in order to evaluate factors that may help predict which men with elevated PVRs that were at increased risk to develop AUR.

METHODS: We retrospectively analyzed the records of 44 male patients who had two consecutive PVR urine determinations greater than 100cc over a 6-month period. Using regression analysis, we evaluated patient's age, PVR volume, PSA and TRUS prostate volume with respect to the development of AUR over a 24-month period.

RESULTS: Of the 44 patients analyzed, 4 developed AUR. When all four of the factors were considered, prostate volume was determined to be the only factor that was statistically significant (p=.003). A 1 standard deviation increase in prostate volume (12cc) led to a 19.6% increase risk of developing AUR over the next 24 months. There was a strong correlation between PSA and prostate volume (0 .787). A regression analysis was then repeated using age, PVR, and PSA (excluding prostate volume). PSA then became a statistically significant predictor of AUR (p=.007). A 1 standard deviation increase in PSA (1.377ng/ml) increased the patients' risk of developing AUR by 12.3%.

CONCLUSION: In men with an elevated PVR, increased TRUS prostate volume, or in its absence, PSA, may help predict which patients have a heightened risk of developing AUR within the next 24 months. This information may help influence which patients may need early surgical intervention versus medical therapy.